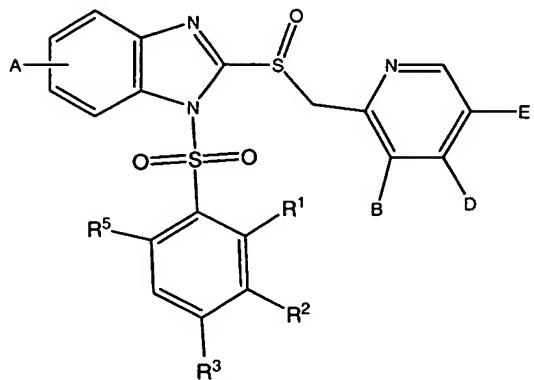


CLAIMS

What is claimed is:

1. A method of preventing or treating a disease or adverse condition  
5 affecting the gastrointestinal tract comprising orally administering to a mammal
  - a. a therapeutically effective amount of a prodrug of a proton pump inhibitor, and
  - b. an effective amount of a trefoil family factor peptide, a mucoadhesive agent, or a combination thereof
- 10 wherein said prodrug of a proton pump inhibitor is



or a pharmaceutically acceptable salt thereof

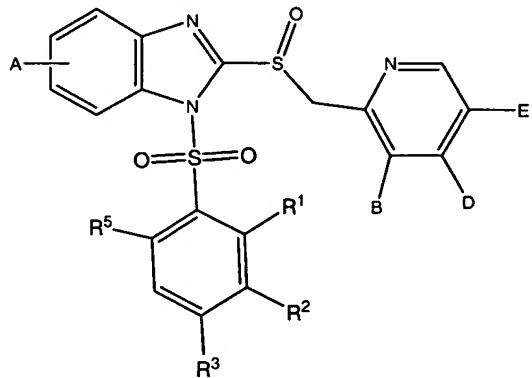
wherein

A is H, OCH<sub>3</sub>, or OCHF<sub>2</sub>;

- 15 B is CH<sub>3</sub> or OCH<sub>3</sub>;
- D is OCH<sub>3</sub>, OCH<sub>2</sub>CF<sub>3</sub>, or O(CH<sub>2</sub>)<sub>3</sub>OCH<sub>3</sub>;
- E is H or CH<sub>3</sub>;
- R<sup>1</sup>, R<sup>2</sup>, R<sup>3</sup>, and R<sup>5</sup> are independently H, CH<sub>3</sub>, CO<sub>2</sub>H, CH<sub>2</sub>CO<sub>2</sub>H, (CH<sub>2</sub>)<sub>2</sub>CO<sub>2</sub>H, CH(CH<sub>3</sub>)<sub>2</sub>, OCH<sub>2</sub>C(CH<sub>3</sub>)<sub>2</sub>CO<sub>2</sub>H, OCH<sub>2</sub>CO<sub>2</sub>CH<sub>3</sub>, OCH<sub>2</sub>CO<sub>2</sub>H, OCH<sub>2</sub>CO<sub>2</sub>NH<sub>2</sub>,
- 20 OCH<sub>2</sub>CONH<sub>2</sub>(CH<sub>2</sub>)<sub>5</sub>CO<sub>2</sub>CH<sub>3</sub>, or OCH<sub>3</sub>.

2. The method of claim 1 wherein R<sup>1</sup>, R<sup>2</sup>, R<sup>3</sup>, and R<sup>5</sup> are independently H, CH<sub>3</sub>, CO<sub>2</sub>H, CH<sub>2</sub>CO<sub>2</sub>H, (CH<sub>2</sub>)<sub>2</sub>CO<sub>2</sub>H, OCH<sub>2</sub>CO<sub>2</sub>CH<sub>3</sub>, OCH<sub>2</sub>CO<sub>2</sub>H, OCH<sub>2</sub>CONH<sub>2</sub>(CH<sub>2</sub>)<sub>5</sub>CO<sub>2</sub>CH<sub>3</sub>, or OCH<sub>3</sub>.
3. The method of claim 2 wherein the membrane permeability of the proton pump inhibitor is more than 10 times the membrane permeability of the prodrug.

4. The method of claim 2 wherein the membrane permeability of the proton pump inhibitor is more than 100 times the membrane permeability of the prodrug.
5. The method of claim 2 wherein the membrane permeability of the proton pump inhibitor is more than 150 times the membrane permeability of the prodrug.
6. The method of claim 1 wherein a trefoil factor family peptide is administered orally to said mammal.
7. The method of claim 1 wherein a mucoadhesive is administered orally to said mammal.
- 10 8. The method of claim 7 wherein a trefoil factor family peptide and a mucoadhesive are administered orally to said mammal.
9. A composition comprising  
a prodrug of a proton pump inhibitor, and  
15 a trefoil family factor peptide, a mucoadhesive component, or a combination thereof,  
wherein said composition is suitable for use in a pharmaceutical dosage form,  
and wherein said prodrug of a proton pump inhibitor is



20 or a pharmaceutically acceptable salt thereof  
wherein  
A is H,  $\text{OCH}_3$ , or  $\text{OCHF}_2$ ;  
B is  $\text{CH}_3$  or  $\text{OCH}_3$ ;  
D is  $\text{OCH}_3$ ,  $\text{OCH}_2\text{CF}_3$ , or  $\text{O}(\text{CH}_2)_3\text{OCH}_3$ ;  
25 E is H or  $\text{CH}_3$ ;

$R^1$ ,  $R^2$ ,  $R^3$ , and  $R^5$  are independently H, CH<sub>3</sub>, CO<sub>2</sub>H, CH<sub>2</sub>CO<sub>2</sub>H, (CH<sub>2</sub>)<sub>2</sub>CO<sub>2</sub>H, CH(CH<sub>3</sub>)<sub>2</sub>, OCH<sub>2</sub>C(CH<sub>3</sub>)<sub>2</sub>CO<sub>2</sub>H, OCH<sub>2</sub>CO<sub>2</sub>CH<sub>3</sub>, OCH<sub>2</sub>CO<sub>2</sub>H, OCH<sub>2</sub>CO<sub>2</sub>NH<sub>2</sub>, OCH<sub>2</sub>CONH<sub>2</sub>(CH<sub>2</sub>)<sub>5</sub>CO<sub>2</sub>CH<sub>3</sub>, or OCH<sub>3</sub>.

10. The composition of claim 9 wherein  $R^1$ ,  $R^2$ ,  $R^3$ , and  $R^5$  are independently H, CH<sub>3</sub>, CO<sub>2</sub>H, CH<sub>2</sub>CO<sub>2</sub>H, (CH<sub>2</sub>)<sub>2</sub>CO<sub>2</sub>H, OCH<sub>2</sub>CO<sub>2</sub>CH<sub>3</sub>, OCH<sub>2</sub>CO<sub>2</sub>H, OCH<sub>2</sub>CONH<sub>2</sub>(CH<sub>2</sub>)<sub>5</sub>CO<sub>2</sub>CH<sub>3</sub>, or OCH<sub>3</sub>.
11. The composition of claim 9 which comprises a mucoadhesive component.
12. The composition of claim 9 which comprises Tamarind seed polysaccharide.
13. The composition of claim 9 which comprises a trefoil factor family peptide.
14. The composition of claim 9 which comprises a mucoadhesive component and a trefoil factor family peptide.
15. 15. The composition of claim 12 which comprises Tamarind seed polysaccharide and a trefoil factor family peptide.
16. The composition of claim 9 wherein the trefoil factor family peptide is TFF1, TFF2, or TFF3.
17. The composition of claim 16 wherein the trefoil factor family peptide is TFF1 or TFF2.
18. The composition of claim 17 wherein the trefoil factor family peptide is TFF1.
19. The composition of claim 17 wherein the trefoil factor family peptide is TFF2.
20. 20. The composition of claim 9 wherein the prodrug is a prodrug of omeprazole, esomeprazole, lansoprazole, pantoprazole, rabeprazole, or a combination thereof.